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Attorney Docket No.: 200313908-1

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| **Inventor(s):** | Michael T. ROEDER | **Confirmation No.:** | 4688 |
| **Serial No.:** | 10/633,444 | **Examiner:** | Kan YUEN |
| **Filed:** | August 1, 2003 | **Group Art Unit:** | 2464 |

**Title:** AUTOMATED ROUTER LOAD BALANCING

**MAIL STOP APPEAL BRIEF - PATENTS**
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

## RESPONSE TO NOTIFICATION OF NON-COMPLIANT APPEAL BRIEF

Sir:

This is responsive to the Notification of Non-Compliant Appeal Brief dated May 3, 2011. The Notification indicated that the Claims Appendix of the Appeal Brief was not a clean copy because claim 7 had markings. Accordingly, the markings in claim 7 have been removed and a clean copy of the Claims Appendix is attached hereto.

Please grant any required extensions of time and charge any fees due in connection with this Amended Brief to deposit account no. 08-2025.

Respectfully submitted,

Dated: May 24, 2011

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## (9) Claim Appendix

1. (Previously Presented) A method of load balancing between a plurality of routers by automated resetting of gateways, the method comprising:

receiving a packet at a first router from a source host to be forwarded to a destination host;

identifying a current load on the first router;

determining whether the packet is to be routed by another one of the plurality of routers based upon the identified current load of the first router;

applying an algorithm at the first router to select a second router from the plurality of routers to be a next gateway for the source host for packets destined to the destination host in response to a determination that the packet is to be routed by another one of the plurality of routers; and

sending an ICMP redirect message from the first router to the source host to reset a default gateway of the source host to be the second router for packets destined to the destination host.

2. (Original) The method of claim 1, wherein the algorithm comprises a pseudo-random algorithm.

3. (Original) The method of claim 1, wherein the algorithm selects the next default gateway using a round robin type selection process.

6. (Original) The method of claim 1, wherein the algorithm is load based, and further comprising communicating load levels amongst the plurality of routers.

7. (Previously Presented) An apparatus for routing packets with a load balancing capability involving automated resetting of gateways, the apparatus comprising:

a first router configured to receive a packet from a source host to be routed to a destination host;

a selection module configured to identify a current load on the first router, determine whether the packet is to be routed by another one of the plurality of routers based upon the identified current load of the first router, apply an algorithm to select a second router from the plurality of routers to be a next gateway of the source host for packets destined to the destination host; and

a transmission module configured to send an ICMP redirect message to the source host to reset a current gateway of the source host to be said second router for packets destined to the destination host.

8. (Original) The apparatus of claim 7, wherein the selection module comprises a pseudo-random number generator.

9. (Original) The apparatus of claim 7, wherein the selection module applies a round-robin type algorithm to select the next gateway.

10. (Original) The apparatus of claim 7, wherein the selection module applies a hash function.

11. (Previously Presented) The apparatus of claim 10, wherein the hash function is a function of a source IP address.

12. (Original) The apparatus of claim 10, wherein the hash function is a function of a combination of the source and destination IP addresses.

13. (Original) The apparatus of claim 7, wherein the apparatus is configured to communicate load levels to and receive load levels from other routing apparatus, and wherein the selection module applies a load-based algorithm.

14. (Original) The apparatus of claim 13, wherein the load-based algorithm comprises a weighted hash algorithm.

15. (Original) The apparatus of claim 13, wherein the load-based algorithm comprises a weighted round robin algorithm.

16. (Original) The apparatus of claim 13, wherein the load-based algorithm comprises a pseudo-random algorithm.

17. (Previously Presented) A method of load balancing between a plurality of routers by automated selection of a router to respond to an ARP request, the method comprising:

in a first router, receiving a packet from a requesting host for forwarding via a network, identifying a current load of the first router, determining whether the packet is to be routed by another one of the plurality of routers based upon the identified current load of the first router, and transmitting an address resolution protocol (ARP) request to other ones of the plurality of routers in response to a determination that the packet is to be routed by another one of the plurality of routers;

in the other ones of the plurality of routers, receiving the ARP request from the first router,

performing the automated selection of the router to respond to the ARP request by applying an algorithm at each of the other ones of the plurality of routers to determine which single router is to respond to the ARP request; and

sending an ARP reply from the selected router to the requesting host.

18. (Previously Presented) The method of claim 17, further comprising forwarding a packet from a source IP address to a destination IP address.

19. (Original) The method of claim 17, wherein the algorithm comprises a hash function.

20. (Previously Presented) The method of claim 19, wherein the hash function is a function of a source and a destination IP addresses.

21. (Previously Presented) The method of claim 17, wherein the algorithm determines the selected router using a round robin type selection process.

22. (Original) The method of claim 17, wherein the algorithm is load based, and further comprising communicating load levels amongst the plurality of routers.

23. (Previously Presented) A system of load balancing between a plurality of routers involving automated selection of a router to respond to an ARP request, the system comprising:

in each of the plurality of routers,

means for receiving a packet from a requesting host for forwarding via a network;

means for identifying a current load of the plurality of routers;

means for determining whether the packet is to be routed by another one of the plurality of routers in response to the identified current load; and

means for transmitting an address resolution protocol (ARP) request to other ones of the plurality of routers in response to a determination that the packet is to be routed by another one of the plurality of routers;

means for receiving the ARP request from the other ones of the plurality of routers;

means for performing the automated selection of the router to respond to the ARP request by applying an algorithm at each of the other ones of the plurality of routers to determine which single router is to respond to the ARP request; and

means for sending an ARP reply from the selected router to the requesting host.